UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

MAR 0 7 2014

CERTIFIED MAIL 7012 1010 0002 0759 7479
RETURN RECEIPT REQUESTED

City of Olive Branch
Attn: Mr. Steven Bigelow, P.E.
Director of Public Works
10175 Highway 178
Olive Branch, Mississippi 38654

Re: U.S. Environmental Protection Agency and Mississippi Department of Environmental Quality Compliance Evaluation Inspection Information Request
Section 308 of the Clean Water Act
City of Olive Branch Wastewater Collection & Transmission System

Dear Mr. Bigelow:

On June 12, 2013, the U.S. Environmental Protection Agency Region 4 and the Mississippi Department of Environmental Quality (MDEQ) conducted a Compliance Evaluation Inspection (CEI) of the City of Olive Branch, Mississippi's (Olive Branch) Wastewater Collection and Transmission System (WCTS). The objective of this CEI was to assess Olive Branch's compliance with the Clean Water Act (CWA). Additionally, the EPA evaluated Olive Branch's Management, Operations and Maintenance programs related to its WCTS. The inspection results are summarized in the enclosed CEI report.

Pursuant to Section 308 of the CWA, 33 U.S.C. § 1318, the EPA hereby requests Olive Branch to respond to the enclosed CEI report and Enclosure A, within 30 days of its receipt of this letter. The response should be directed to:

Mr. Brad Ammons, Enforcement Officer
U.S. Environmental Protection Agency, Region 4
Clean Water Enforcement Branch
61 Forsyth Street, S.W.
Atlanta, Georgia 30303-8960

All information submitted must be accompanied by the following certification signed by a responsible City official in accordance with 40 C.F.R. § 122.22:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or

persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Failure to comply with this information request may result in enforcement proceedings under Section 309 of the CWA, 33 U.S.C. § 1319, which could result in the judicial imposition of civil or criminal penalties or the administrative imposition of civil penalties. In addition, there is potential criminal liability for the falsification of any response to the requested information.

Olive Branch shall preserve, until further notice, all records (either written or electronic), which exist at the time of receipt of this letter that relate to any of the matters set forth in this letter. The term "records" shall be interpreted in the broadest sense to include information of every sort. The response to this information request shall include assurance that these record protection provisions were put in place, as required. No such records shall be disposed of until written authorization is received from the Chief of the Clean Water Enforcement Branch at the U.S. EPA, Region 4.

If you believe that any of the requested information constitutes confidential business information, you may assert a confidentiality claim with respect to such information except for effluent data. Further details, including how to make a business confidentiality claim, are found in Enclosure B.

Please contact Mr. Brad Ammons at (404) 562-9769 or via email at ammons.brad@epa.gov, if you have any questions or concerns regarding this matter.

Sincerely,

Denisse D. Diaz, Chief
Clean Water Enforcement Branch
Water Protection Division

Enclosures

cc: Mr. Chris Sanders
Mississippi Department of Environmental Quality

Mr. Jim Harvey
Mississippi Department of Environmental Quality

ENCLOSURE A

SSO PROGRAM
The City of Olive Branch, MS

1. Provide the following:

a. The size of the City's Sanitary Sewer Collection System (SSS) (linear feet or miles);
b. A list of the pump stations in the SSS, including size (gpm), and indicate if back up power is available and if it is adequate to fully operate the pump station;
c. A list of all constructed overflow points (any unpermitted constructed discharge points) in the SSS (including pump stations) prior to the headworks of the receiving WWTP; and
d. The population served by the City's SSS.

2. For purposes of this Information Request, a sanitary sewer overflow (SSO) is an overflow, spill, release, or diversion of wastewater from the SSS. SSOs include overflows or releases of wastewater that reach waters of the United States (U.S.); overflows or releases of wastewater that do not reach waters of the U.S.; and wastewater backups into buildings that are caused by blockages or flow conditions in a sanitary sewer other than a building lateral. Wastewater backups into buildings caused by a blockage or other malfunction of a building lateral that is privately owned is not an SSO.

Provide a listing of all SSOs that occurred from January 2009 to the present. For each SSO provide the following:

a. Date(s) of the SSO;
b. Time (and Date if other than a. above) when the City was notified that the SSO event occurred;
c. Time (and Date if other than a. above) when the City (or contractor) crew responded to the SSO;
d. Time (and Date if other than a. above) when the SSO ceased;
e. Time (and Date if other than a. above) when corrective action was completed;
f. Location of the SSO, including source (pump station, manhole, etc.);
g. Ultimate destination of the SSO, such as surface waterbody (by name, if available), storm drain leading to surface waterbody (by name, if available), dry land, building, etc.;
h. Volume of the SSO;
i. Cause of the SSO such as grease, roots, other blockages, wet weather (infiltration and inflow), loss of power at pump station, pump failure, etc.;
j. Corrective actions taken to stop the SSO; and
k. Corrective actions taken to prevent this or similar SSOs in the future.

If available, please provide the above information in a Microsoft compatible spreadsheet

format.

3. If the City has a formal written plan for responding to, addressing, and reporting SSOs (i.e., a Sewer Overflow Response Plan ("SORP")), provide a copy of the plan.

4. Provide a copy of any additional City procedures not included in the SORP (as referenced in Question 3 above) for the following activities:

    a. Documenting SSOs;
    b. Estimating SSO volume;
    c. Identifying root causes of SSOs;
    d. Containment and clean-up of SSOs, including any specific procedures addressing backups into buildings caused by mainline problems;
    e. Identifying wet weather related SSOs and reconnaissance of these during rain events; and
    f. All reporting of SSOs to the permitting authority, the State of Mississippi.

5. Provide the name of the person (or position title) responsible for each of the activities indentified in the City's SORP and/or listed in Question 4 above.

ENCLOSURE B

RIGHT TO ASSERT BUSINESS CONFIDENTIALITY CLAIMS
(40 C.F.R. Part 2)

Except for effluent data, you may, if you desire, assert a business confidentiality claim as to any or all of the information that EPA is requesting from you. The EPA regulation relating to business confidentiality claims is found at 40 C.F.R. Part 2.

If you assert such a claim for the requested information, EPA will only disclose the information to the extent and under the procedures set out in the cited regulations. If no business confidentiality claim accompanies the information, EPA may make the information available to the public without any further notice to you.

40 C.F.R. §2.203(b). **Method and time of asserting business confidentiality claim.** A business which is submitting information to EPA may assert a business confidentiality claim covering the information by placing on (or attaching to) the information, at the time it is submitted to EPA, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential." Allegedly confidential portions of otherwise non-confidential documents should be clearly identified by the business, and may be submitted separately to facilitate identification and handling by EPA. If the business desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 4
Water Protection Division
Clean Water Enforcement Branch

COMPLIANCE EVALUATION INSPECTION REPORT

City of Olive Branch, Mississippi
Olive Branch, Mississippi
Satellite to Desoto County Regional Utility Authority

Facility Address:
10175 Highway 178
Olive Branch, Mississippi 38654

Inspection Date:
June 12, 2013

Inspectors:
Brad Ammons, Environmental Engineer, EPA Region 4
Jim Harvey, Mississippi Department of Environmental Quality

Inspection Report Prepared by:
Brad Ammons

January 23, 2014

TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS

CCTV	Closed Circuit Television
CEI	Compliance Evaluation Inspection
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
GIS	Geographic Information System
I/I	Infiltration and Inflow
MDEQ	Mississippi Department of Environmental Quality
MOM	Management, Operation, and Maintenance
NPDES	National Pollutant Discharge Elimination System
SCADA	Supervisory Control and Data Acquisition
SORP	Sewer Overflow Response Plan
SSO	Sanitary Sewer Overflow
SUO	Sewer Use Ordinance
WCTS	Wastewater Collection and Transmission System
WWTP	Wastewater Treatment Plant

I. OVERVIEW

The City of Olive Branch, Mississippi (Olive Branch), through its Public Works Department, provides sanitary sewer services for residential, commercial and industrial entities within the City of Olive Branch, Mississippi. Regarding sanitary sewer services, Olive Branch is responsible for the operation and maintenance of approximately 300 miles of sewer lines, approximately 76 sanitary sewer pump stations, and other sanitary sewer related facilities. Most of Olive Branch's wastewater is transferred to the Desoto County Regional Utility Authority (DCRUA) for treatment and discharge at DCRUA's Short Fork Wastewater Treatment Plant (WWTP) (a.k.a. Ross Road WWTP). Olive Branch has experienced tremendous growth between 1990 and 2010, and was named the fastest growing city in the United States in a Business Week news article[1]. The population of Olive Branch in 1990 was 3,567. The City grew to 21,054 by the 2000 Census and to 33,484 by the 2010 Census.

The Mississippi Department of Environmental Quality (MDEQ) is authorized under the Clean Water Act (CWA) to implement the National Pollutant Discharge Elimination System (NPDES) program in Mississippi. As Olive Branch owns and operates the sanitary sewers that ultimately discharge to DCRUA's Short Fork WWTP and does not own the WWTP itself, Olive Branch has not been issued a NPDES permit and is considered a satellite of DCRUA. MDEQ has not issued any formal enforcement actions against Olive Branch related to any of its sewer related facilities.

On April 12, 2013, the EPA received a complaint, including photographs, of a Sanitary Sewer Overflow (SSO) that reached waters of the United States from a citizen living in Olive Branch. The same citizen submitted video to EPA for another SSO that reached waters of the United States on May 2, 2013. EPA forwarded both complaints to MDEQ.

Subsequently, EPA conducted a compliance evaluation inspection (CEI) of Olive Branch's Wastewater Collection and Transmission System (WCTS) on June 12, 2013. The purpose of this CEI was to evaluate compliance with the CWA as it relates to SSOs from Olive Branch's WCTS that reach waters of the United States. Additionally, the purpose of this compliance inspection was to examine the causes and potential corrective actions for SSOs from the sewer system to waters of the United States.

During the June 12, 2013 CEI, EPA and MDEQ visited the customer complaint site, as well as one (1) sewer pump station. Below are the specific facilities inspected during the June 12, 2013 CEI.

Customer complaint site

- 7134 Crape Myrtle Drive

Pump Stations

- Hampton Inn Pump Station

[1] http://www.businessweek.com/lifestyle/content/apr2011/bw20110426_893708.htm

This report describes EPA's findings, provides an initial analysis of SSOs from the sewer system to waters of the United States, and provides EPA's review of Olive Branch's *Preventative Maintenance Sewer Manual* (April 2013), a copy of which was provided to EPA during this CEI. In this report, EPA also identifies areas that need to be addressed and presents preliminary recommendations.

II. OBJECTIVES

The specific objective of this WCTS CEI was to assess Olive Branch's compliance with the CWA. Additionally, EPA examined the causes of SSOs from Olive Branch's WCTS.

III. INVESTIGATION METHODS

The investigation of Olive Branch included:

- Interviews with Olive Branch personnel.
- Review of Olive Branch's records/documents.
- Review of online sources of information.
- Visual inspection of SSO locations in the sewer system and a pump station.

Most of the EPA's questions were answered by interviewing Mr. Steven Bigelow, P.E., the City's Public Works and Engineering Department Director. Field inspections by EPA and MDEQ were accompanied by Mr. Bigelow and/or by Mr. Larry McClure (Water and Wastewater Superintendent) and Mr. Lanny May (Water and Wastewater Supervisor).

IV. REGULATORY SUMMARY

Olive Branch is not authorized to discharge pollutants to a water of the United States by a NPDES permit. Most of Olive Branch's SSOs have discharged to Camp Creek and/or its tributaries. Camp Creek and its tributaries have not been listed in the 2008, 2010 or 2012 §303(d) list of impaired waters. Camp Creek is a tributary of the Coldwater River. MDEQ has not issued any formal enforcement for Olive Branch's SSOs.

V. INSPECTION SUMMARY AND FINDINGS

EPA conducted a CEI of Olive Branch's WCTS on June 12, 2013 to evaluate compliance with the CWA.

A. Analysis of SSOs

Discharges from municipal sanitary sewer systems to waters of the United States are prohibited, unless authorized by an NPDES permit. According to Olive Branch personnel, Olive Branch identifies SSO events typically by customer complaints. Mr. Bigelow provided EPA with a 3 month printout of work orders for sewer complaints (April – June 10, 2013). It appears that during this 3 month period, Olive Branch experienced 32 SSOs that potentially reached waters of the United States. There were no

SSO volumes or SSO causes reported or recorded in the City's work order system printout.

Mr. Bigelow told EPA that the City had no constructed overflow structures in the WCTS. The City does have a written Management, Operations and Maintenance (MOM) Program, entitled *Preventative Maintenance Sewer Manual* (April 2013). According to the *Preventative Maintenance Sewer Manual* (April 2013), Olive Branch experienced 50 SSOs that directly entered waters of the United States from January 2009 – April 2013. The above listed 32 SSOs from the Work Order system are in addition to the 50 SSOs listed as directly entering waters of the United States in the *Preventative Maintenance Sewer Manual* (April 2013).

Finding: Olive Branch has not reported all of its SSOs to MDEQ.

Recommendation: Olive Branch should develop a written Sewer Overflow Response Plan (SORP) to ensure that Olive Branch has proper SSO notification, reporting and recordkeeping procedures.

Finding: While the City's work order system does not record the cause of the SSO or sewer backup, Olive Branch staff told EPA and MDEQ that the main cause of SSOs in their WCTS was Fats, Oils and Grease (FOG) or other debris causing blockages in the gravity sewers. The City has planned to implement a routine cleaning schedule of cleaning approximately 20% of the entire WCTS on an annual basis (i.e. a 5-year schedule). Certain sewers, identified as trouble spots or critical service areas will be cleaned on a more frequent basis.

However, many municipal utilities attribute SSOs to FOG or grease, when the true cause of the blockage is different. For example, grease may not block a sewer unless there are roots, offset joints and/or other sewer defects that cause the grease to accumulate. In fact, the cause of the most recent SSOs (outlined in City's *Preventative Maintenance Sewer Manual*) were attributed to wet weather flows overwhelming the Hampton Inn pump station. However, the City's staff now believes that SSOs in the Alexander Crossing subdivision may be caused by undersized sewers in the subdivision and the City has plans to install a parallel relief sewer. In addition, staff told EPA that there is a wet weather capacity problem in the Craft Road area, which is where Olive Branch's WCTS connects to the DCRUA system.

Recommendations: (1) Olive Branch should immediately implement the City's Priority Cleaning and Routine Cleaning programs for gravity sewers (outlined in the City's *Preventative Maintenance Sewer Manual* (April 2013), including the necessary funding and additional staff; (2) Olive Branch should review, evaluate and revise its FOG Control Program to prevent the entry of FOG into the WCTS and enforce against violators, including a review of the City's FOG limit of 150 ppm of FOG (many sewer utilities use the limit of 100 ppm); (3) Olive Branch should have a standard procedure for investigating the underlying causes of the SSOs more thoroughly, and (4) Olive Branch should develop and implement a Sanitary Sewer Evaluation System (SSES) and

Rehabilitation Program, including implementing sewer rehabilitation and/or upgrade plans to eliminate wet weather SSOs in the Alexander Crossing subdivision and the Craft Road area.

Finding: Olive Branch only has 4 of its 76 sewer pump stations on Supervisory Control and Data Acquisition (SCADA) and only 1 pump station has on-site backup power (the Hampton Inn pump station). In addition, Olive Branch employees told EPA and MDEQ that the Water/Sewer department no longer has a portable generator and only has 3 portable bypass pumps (1-6" bypass pump + 2-3" bypass pumps).

Recommendations: Olive Branch should consider installing SCADA systems on the Pump Stations it owns and operates. Olive Branch should install on-site alarms (visual and/or audible) at all of the pump stations it owns and operates. Finally, Olive Branch should either install on-site generators and/or purchase portable generator(s) that are dedicated to the Water/Sewer Department and are large enough to power the City's largest pump stations in case of power outages.

B. Capacity, Management, Operation, and Maintenance Programs

EPA assessed several of Olive Branch's CMOM programs through this inspection. The following sections will discuss and provide recommendations for several MOM programs.

1. Continuous Sewer System Assessment Program

a. Prioritization

This was not specifically discussed during the inspection. However, the City's *Preventative Maintenance Sewer Manual* does provide a prioritization protocol for sewer areas for inspection/assessment as being based upon the older parts of the City and known problem areas.

Recommendations: Olive Branch should continue to implement the City's sewer WCTS prioritization program to prioritize its sewer inspection/assessment activities. In addition, Olive Branch should consider conducting a flow monitoring study to further prioritize areas for assessment.

b. Corrosion Defect Identification

Olive Branch has not historically experienced SSOs due to corrosion, especially given that most of the WCTS has been constructed of PVC over the last 2 decades. However, the City should take corrosion into account in sewer rehabilitation and/or upgrade plans.

Recommendations: Olive Branch should identify any major sewer line that may be subject to corrosion and develop a program that includes procedures for

corrosion identification, corrosion identification forms, performance goals, corrosion defect analysis, and a mechanism to collect this data.

c. Manhole Inspection

While this was not discussed specifically during the inspection, the City's *Preventative Maintenance Sewer Manual* outlines a plan to inspect approximately 20% of the manholes in a year (i.e. a 5 year cycle to inspect all of the City's manholes).

Recommendations: Olive Branch should continue to implement the manhole inspection program to routinely inspect manholes within the entire WCTS. The program should include standard manhole inspection procedures, inspection forms, performance goals, manhole defect analysis, and a mechanism for collecting this data.

d. Gravity Sewer Line Inspection

Olive Branch has a plan to inspect and/or assess the gravity sewers in its WCTS (see above regarding plans outlined in the City's *Preventative Maintenance Sewer Manual* (April 2013)) on a 5 year cycle.

Recommendations: Olive Branch should continue to implement its program to routinely inspect and/or assess gravity sewer lines as part of the recommended SSES and rehabilitation program. This program should use industry-standard methods of inspection (e.g. Closed-Circuit Television of gravity sewer lines, dyed water flooding, smoke testing, etc.). Finally, this inspection program should also inspect sewer laterals and include the City's consideration of updating its sewer use ordinance to include mandatory rehabilitation of privately-owned laterals, as outlined in the City's *Preventative Maintenance Sewer Manual* (April 2013).

e. Flow Monitoring

Olive Branch does not have any flow meters in its WCTS. According to Mr. Bigelow, there are two locations in the WCTS that have wet weather capacity limitations: (1) the Alexander Crossing subdivision area (Southern Gum Way + Crape Myrtle Drive) and (2) the Craft Road area. Olive Branch does have 1 rain gauge that is centrally located within the City.

Recommendations: Olive Branch should develop a flow monitoring program to support engineering analyses related to sewer system capacity and peak wet-weather flow evaluations. This program would help in understanding the causes of and finding possible locations of SSOs, and help in the development of a sewer model. The program may include the use of an appropriate number of calibrated permanent or temporary flow meters during specific sewer system assessment

activities. The program should also include adequate rainfall measurement and mechanisms to collect the flow monitoring information.

f. Gravity System Defect Analysis

Olive Branch appears to have a plan to begin conducting defect analysis on the WCTS, as outlined in its *Preventative Maintenance Sewer Manual* (April 2013).

Recommendations: Olive Branch should implement its program that analyzes gravity sewer system defects using industry standard defect codes (available from different sources), written defect identification procedures and guidelines, a standardized process for cataloging gravity system defects, and mechanisms to collect and save this data for further analysis.

g. Pump Station Performance and Adequacy

According to Mr. Bigelow, there are two crews that check pump stations. These crews drive by each pump station daily (Monday-Friday) and do a more detailed check on each station once a month. According to Mr. May, these crews inspect the pumps (to ensure the pumps work), record run times and check alarms on the daily inspections. The first line supervisor checks these daily records, but in a few instances in the records reviewed, EPA and MDEQ noted that 1 pump is running a lot longer than other pumps and/or the field crews write down maintenance needs that are not quickly resolved.

Recommendations: Olive Branch should implement a more formal program that evaluates pump station performance and adequacy based upon the daily inspections. The program should include trend analysis of pump run-times, pump start counters, historical review of causes for pump failures or SSOs, and mechanisms to collect and analyze this data. Olive Branch should specifically consider installing SCADA systems on its pump stations. Olive Branch should use this data to evaluate if pump stations are adequate to handle flows, and identify performance problems.

2. Infrastructure Rehabilitation Program

According to the *Preventative Maintenance Sewer Manual* (April 2013), in the last 10 years, Olive Branch has used Corps of Engineers (592 Funding) for 75% of any sewer capital improvements while the City's share was 25%. Most of the City's share of monies came from the sale of the Ross Road and the Brayborne WWTPs to the DCRUA (approximately $4,000,000, of which approximately $450,000 remains in reserve). Also, in the *Preventative Maintenance Sewer Manual* (April 2013), Olive Branch mentions the following rehabilitation needs:

- Additional rehabilitation past the Phase I and II rehabilitation of the older parts of the City;
- Replacement of an estimated $1.1 million in gravity sewer lines, including a

10" sewer that services the Magnolia Lakes neighborhood; installing a parallel 15" sewer for commercial development (Hacks Cross Road); and upgrading a 15" sewer that runs from the Ross Road WWTP to Highway 178 to an 18" sewer.

Recommendations: Olive Branch should conduct a SSES and Rehabilitation Program in the two wet-weather capacity limited areas of the WCTS (i.e. Alexander Crossing subdivision + Craft Road area). As the Craft Road area is the connection point to the DCRUA system, Olive Branch should work with DCRUA to look into ways to resolve the capacity issue there.

Specifically, the SSES should evaluate all gravity sewer line defects, manhole defects, pump station defects, force main defects and siphon defects. Finally, a post-rehabilitation inspection program should be developed and implemented in order to review the effectiveness of the rehabilitation program.

3. System Capacity Assurance Program

a. Capacity Assurance for New Connections, and
b. Protocols for Capacity Assurance

Olive Branch does not have a formal, written WCTS capacity assurance program. As mentioned above, Olive Branch employees identified to the 2 following wet-weather capacity limited areas in the City's WCTS:

- Alexander Crossing subdivision
- Craft Road (Olive Branch's connection to DCRUA).

However, in the *Preventative Maintenance Sewer Manual* (April 2013), the City states that it has developed and calibrated a hydraulic model for any capacity issues.

Recommendations: Olive Branch should develop and implement a formal program to ensure that there is adequate capacity to collect, transmit, and treat additional sewage expected as a result of prospective new sewer connections. Olive Branch should develop standardized design flow rules of thumb (i.e., regarding pipe roughness, manhole head losses, accuracy of distance and slope on as-built drawings, and water use). Additionally, Olive Branch should clarify if the hydraulic model is of the entire sewer system or just known capacity limited areas. Olive Branch should use flow metering to confirm mathematical estimations of existing peak flow. The program should also require the certification of adequate capacity by a registered Professional Engineer.

4. Sewer Mapping and System Inventory Program

Olive Branch has the WCTS assets in a geographic information system (GIS).

Recommendations: Olive Branch should continue to use its GIS and Information Management System (IMS; discussed below) to further refine the O&M and Rehabilitation needs of the WCTS.

5. Information Management System

According to the *Preventative Maintenance Sewer Manual* (April 2013), if a complaint is received during normal work hours (i.e. 7am - 5pm, Monday – Friday), the information is entered immediately into the City's MUNIS database/IMS, a work order is created and a response crew is dispatched. If a complaint is received after hours, the Olive Branch Police Department takes the call, the on-call crew is called for response and the complaint and resolution of the complaint is not entered into the database until the next business day. All work orders and their resolution are tracked in the MUNIS database/IMS.

Recommendation: Olive Branch should continue to use its database to shift resources from a reactive maintenance approach to a preventive and eventually, a predictive maintenance approach. The database should be used to prioritize sewer inspection/assessment activities, as well.

6. Financial Analysis Program
   a. Operations & Maintenance Budget Program
   b. Capital Improvement Budget Program, and
   c. Customer Rate Setting Analysis Program

The annual budget is completed by September 15th to comply with the City budget cycle. According to the *Preventative Maintenance Sewer Manual* (April 2013), the O&M budget starts with the previous year's costs and adds the projected needs for the coming year. The Public Works Department has a 3 year Capital Improvement Project (CIP) planning horizon for known WCTS needs. Expenses covered by the sewer user charges include: (1) O&M expenses; (2) capital reserve fund replenishment (currently at $450,000); and (3) debt service. The Department has requested sewer rate increases to move to more Preventive Maintenance (rate increase needed in 2014), as well as currently known CIPs. The Department expects that the CIP needs will grow as it assesses the WCTS by CCTV as well.

Recommendations: Given the size of the known needed CIPs, as well as the anticipated increased O&M costs, Olive Branch should more formally document this process.

7. Equipment, Tools & Inventory Management Program

Olive Branch does not have a dedicated portable generator to power any sewer pump stations. In addition, several items listed in the *Preventative Maintenance*

Sewer Manual (April 2013) are nearing the end of their useful life (e.g. the smoke tester & blower; the 3 inch bypass pump; the 6 inch bypass pump and the crane truck).

Recommendations: Olive Branch should develop and implement a more formal Equipment, Tools and Inventory Management Program. Specifically, this program should address equipment; tools and other items (e.g. spare pipe or pump parts) needed to address SSOs due to power outages, pump failures (mechanical), and line breaks.

8. Customer Service Programs

   a. Customer Complaints

   As discussed above, Olive Branch has a customer complaint phone number for normal business hours and uses the Olive Branch Police Department for after-hours complaint calls.

   Recommendation: Olive Branch should use the complaint MUNIS database to inform the public of rehabilitation needs and prioritize WCTS assessment and rehabilitation work.

   b. Public Education Program

   Olive Branch's Fats, Oils and Grease (FOG) compliance/enforcement program is run by the City's Pretreatment Program. In the *Preventative Maintenance Sewer Manual* (April 2013), Olive Branch states that it uses several information and public education programs, including sewer system assessment work, major repairs or rehabilitation, FOG handling information, a grease disposal pamphlet, complaint procedures and other items.

   Recommendations: None.

9. Legal Support Programs

   a. Inter-Jurisdictional Agreement Program

   Olive Branch is a satellite to DCRUA and has a contract with DCRUA for treatment of Olive Branch's wastewater.

   b. Ordinance Program

   In the *Preventative Maintenance Sewer Manual* (April 2013), Olive Branch noted a few items of concern to EPA. Specifically, the higher limit in the sewer use ordinance for FOG of 150 ppm (many utilities use 100 ppm) and the City's recognition that it does not have legal authority over private laterals that may

cause excessive I/I. EPA used the online version of the City's sewer use ordinance (SUO) and other ordinances found at www.municode.com.

Recommendation: Olive Branch should review, evaluate and revise its ordinances and/or Inter-Jurisdictional agreement(s) with DCRUA for items such as FOG control, sewer design criteria, authority over private laterals that cause excessive I/I, and pretreatment limitations and requirements.

c. Pretreatment Legal Support Program

The State of Mississippi is the Control Authority for purposes of the pretreatment program.

d. Grease Control Legal Support Program

The City's online Sewer Use Ordinance (SUO) outlines a limit of 150 mg/L for fats, wax, grease & oil (Chapter 42, Article VII., Division 2., Subdivision V, Section 42-364 of Olive Branch's online ordinances), as well as the requirement of a grease interceptor for certain sewer use customers when determined necessary by the City Engineer (Chapter 42, Article VII., Division 2., Subdivision V, Section 42-367 of Olive Branch's online ordinances). According to Chapter 14, Article II., Section 14-26 of Olive Branch's online ordinances, the City has adopted the International Plumbing Code, 2009 edition, as its plumbing code (effective May 1, 2011). Finally, the SUO outlines penalties for violations of the SUO (Chapter 42, Article III., Division 1, Section 42-67 and Section 42-79 of Olive Branch's online ordinances) allows for discontinuation of service (drinking water) for late payments and for failure to protect or maintain service lines.

e. Service Laterals Legal Support Program

As noted above, it appears that Olive Branch has the authority to discontinue water service for failure to protect or maintain service lines. The only prohibition of connecting inflow sources appears to be during the construction of a new building (i.e. it is covered under the Building Code). In the *Preventative Maintenance Sewer Manual* (April 2013), Olive Branch stated that it is "...also considering adding a requirement that service lateral condition be evaluated as part of a home sale."

Recommendation: Olive Branch should review, evaluate and revise its SUO to address leaky or defective sewer service laterals (infiltration) and Olive Branch's authority in requiring remediation of defective private service laterals.

f. Septic Tank Haulers Legal Support Program

EPA did not specifically ask about this Program during its inspection. EPA did not find any requirements for hauled waste (e.g. require a waste hauler permit;

getting approval to dump wastes; outlining specific locations to dump wastes, etc.) in Olive Branch's online ordinances.

Recommendation: Olive Branch should address septic tank haulers and other wastes hauled for disposal in its sewer use ordinance.

g. "Call Before You Dig" Legal Support Program
EPA did not specifically ask about this Program during its inspection. However, EPA notes that the Olive Branch "One Call" phone number is prominent on the City's website.

Recommendations: Olive Branch should review, evaluate and revise, as necessary, its "Call Before You Dig" Legal Support Program.

10. Water Quality Monitoring

a. Impact Monitoring Program

Olive Branch does not take or analyze water quality samples to assess impacts on waters of the United States after an SSO event.

Recommendations: Olive Branch should establish a specific threshold on when to assess the impact of pollution due to a specific SSO from the sewer system. This program should also include mechanisms to collect the data and transmit the information to the regulatory agency (MDEQ). Additionally, it should include established sampling parameters, standard sampling procedures, and quality assurance/quality control procedures.

11. Pump Station Operation Program

According to the *Preventative Maintenance Sewer Manual* (April 2013), the City checks the 76 pump stations daily (Monday – Friday) by 2 pump station crews. This was evidenced by daily log sheets that are handed in to the Water & Sewer Supervisor (Mr. Lanny May), which shows that the crews record run times and check to ensure pumps are operational.

However, given that Olive Branch does not have a dedicated portable generator and only 1 pump station has on-site backup power, Olive Branch may not be able to react quickly enough in instances of electrical failures to prevent SSOs, including unpermitted discharges. For mechanical failures, it was not clear if Olive Branch's larger bypass pump (6" bypass pump) was large enough to pump around the City's larger pump stations in case of electrical or mechanical failures.

Recommendations: Olive Branch should develop and implement a formal, written Pump Station Operation Program (PSOP) that includes additional equipment needed to react to either mechanical or electrical failures at its pump stations. The PSOP

should address either purchasing of on-site electrical generators or portable generators large enough to power Olive Branch's largest pump stations dedicated to the Water/Sewer Department. In addition, Olive Branch should confirm the capacity of its bypass pumps to ensure they are large enough to pump flows expected at its largest pump stations in the case of mechanical failures.

12. Corrosion Control Program

According to the *Preventative Maintenance Sewer Manual* (April 2013), the vast majority of the gravity sewer lines are constructed of PVC. Thus, corrosion of the gravity sewer lines will not likely be an issue.

Recommendations: None.

13. Fats, Oils, and Grease Control Program

According to the *Preventative Maintenance Sewer Manual* (April 2013), all of the commercial sources of FOG are regulated by the City and/or the County Health Department. In addition, Olive Branch conducts public education and outreach related to FOG handling and disposal.

Recommendations: FOG can and has caused blockages in Olive Branch's WCTS. Additionally, FOG could increase operation and maintenance work due to increased blockages and sewer cleaning requirements. Olive Branch should review, update, revise and continue to implement its FOG Ordinance, as well as continue with public education and outreach about the true costs of dealing with FOG.

In addition, many municipal utilities attribute SSOs to grease, when the true cause of the blockage is different. For example, grease may not block a sewer unless there are roots, offset joints and/or other sewer defects that cause the grease to accumulate. Therefore, Olive Branch should continue its sewer system cleaning, inspection and assessment program to investigate the underlying causes of the SSOs more thoroughly.

14. Pump Station Preventive Maintenance Program

According to the *Preventative Maintenance Sewer Manual* (April 2013), Olive Branch has certain preventive maintenance activities for each station that occur on monthly (exercise generators) or annual (pump down the wet well, remove grease buildup and calibrate the floats) schedules. In addition, the City uses the MUNIS system to schedule weekly, semi-annual and annual preventive maintenance activities for mechanical and electrical maintenance.

Recommendation: Olive Branch should continue to implement the preventive maintenance activities it is conducting.

15. Force Main Preventive Maintenance Program

According to the *Preventative Maintenance Sewer Manual* (April 2013), Olive Branch inspects and maintains the 105 air release valves on a semi-annual basis. In addition, if the backpressure is more than 25% greater than the expected operating head, the force main will be cleaned.

Recommendation: Given the lack of SSOs due to force mains, Olive Branch should continue to implement its force main preventive maintenance program as described.

16. Gravity Line Preventative Maintenance Program
    a. Routine Hydraulic Cleaning Program and
    b. Routine Mechanical Cleaning Program

As described in the *Preventative Maintenance Sewer Manual* (April 2013), Olive Branch's Cleaning, Inspection and Assessment program should continue to drive down the number of blockage related SSOs and place the City in a preventive maintenance frame of action. However, EPA noted that Olive Branch stated it would be necessary to hire another 2-man crew to meet the goal of cleaning the entire system on a 5-year cycle (i.e. 20% of the system per year).

Recommendations: Olive Branch should budget for the needed crew and equipment to continue to move toward a complete preventive maintenance system.

c. Root Control Program

Olive Branch has a mechanical root cutter, which is used in sewer lines with known chronic root problems. Those lines are then placed on a list to return and do mechanical cleaning every 1-2 years. Olive Branch is investigating chemical root control as well.

Recommendations: Olive Branch should continue to refine this program. Specifically, EPA does not favor chemical root control, so known problem spots may need to be assessed for repair or rehabilitation.

17. Emergency Response Plan for Sewer System

This was not discussed specifically during the inspection and there is no discussion of it in Olive Branch's *Preventative Maintenance Sewer Manual* (April 2013).

Recommendations: Olive Branch should develop and implement a formal, written Sewer System Emergency Response Plan (a.k.a. Contingency Plan). Specifically, the ERP should address such items as Public Notification, Regulatory Agency Notification, an Emergency Flow Control Program, an Emergency O&M Plan, and

finally, Preparedness Training.

VI. ATTACHMENTS

A. Inspection Photos
B. Attendance Lists

ATTACHMENT A: Inspection Photos

Figure 1. Manhole outside of 7134 Crape Myrtle Dr. (home in background). Note curb/gutter storm drain to the right of driveway.

Figure 2. Second manhole in front of 7134 Crape Myrtle Drive (according to City staff, this is the manhole that overflows first during wet weather). Curb/gutter storm drain is directly behind photographer.

Figure 3. Hampton Inn pump station power and instrument controls. Note that 1 pump has been pulled for maintenance.

Attachment B: Attendance List

NAME	REPRESENTING	PHONE	ATTENDED
Brad Ammons	EPA Region 4	(404) 562-9769	Interview and Field visits
Jim Harvey	MDEQ, Jackson	(601) 961-5591	Interview and Field visits
Steven Bigelow, P.E.	City of Olive Branch	(662) 895-2827	Interview and Crape Myrtle Drive field visit
Larry McClure	City of Olive Branch	(662) 893-5200	Crape Myrtle Drive field visit + pump station interview
Lanny May	City of Olive Branch	(662) 893-5249	Field visits + pump station interview